



Queen Margaret University
EDINBURGH

SCHOOL OF HEALTH SCIENCES

**DIVISION OF DIETETICS, NUTRITION AND BIOLOGICAL SCIENCES,
PHYSIOTHERAPY, PODIATRY, RADIOGRAPHY**

LEVEL 2 / DIET 1

D2155/ Introduction to Food Science

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| <u>DATE: 09 December 2016</u> | <u>TIME: 2:00PM</u> |
| <u>WRITING TIME: 2 hours</u> | <u>READING TIME: 5 minutes</u> |

INSTRUCTIONS:

Candidates should attempt ALL questions in section A. (20 marks)

Circle the correct answer.

Candidates should answer 3 questions in section B. (60 marks)

Answer each question in a separate answer book.

PAPER SETTER: Julien Lonchamp

MATRICULATION NUMBER: _____

Section A

Answer all questions. 2 marks for each question

1. By UK law, what percentage of fat should there be in semi-skimmed milk
 - a. < 1.5%
 - b. 1.5 – 1.8%
 - c. 3.5 - 4.5%
 - d. 5 – 6.5%

2. Milk that does not separate into liquid and cream has been
 - a. Pasteurised
 - b. Homogenised
 - c. Sterilised
 - d. Winterised

3. Yoghurt is pasteurised milk containing
 - a. Lactobacillus
 - b. Lecithin
 - c. Bifido Bacteria
 - d. Penicillin

4. Double cream should contain a legal minimum of _____ % fat
 - a. 20%
 - b. 40%
 - c. 48%
 - d. 60%

5. White flour has an extraction rate of
 - a. 25%
 - b. 60%
 - c. 70%
 - d. 100%

6. Semolina is made from
 - a. Rice
 - b. Maize
 - c. Rye
 - d. Wheat

7. In bread making, fermentation by yeast produces
 - a. CO₂ and alcohol
 - b. Water and alcohol
 - c. Alcohol and Lactic Acid
 - d. CO₂ and water

8. The rest period before the slaughtering of an animal is important so that the body stores of _____ are not depleted.
- Nitrogen
 - Vitamin A
 - Fatty acids
 - Glycogen
9. The main ingredient used in the curing or pickling of meat is
- Potassium chloride
 - Sodium nitrate/nitrite
 - Potassium nitrate
 - Monosodium glutamate
10. Oxidative rancidity is
- The process by which peeled potatoes go brown
 - The process by which fats and oils produce off-flavours
 - The process by which foods go brown on baking (e.g. the crust on baked bread)
 - The process by which fruit is ripened

End of section A

Section B over the page.

Section B

Answer 3 questions from this section.

1. Fully describe five methods of food preservation used by the food industry. In each case explain the way in which the food preservation method works and give an example of two food stuffs found in supermarkets that use this method of preservation. (20 marks)
2. Critically explain what is Hazard Analysis and Critical Control Point (HACCP) (6 marks)
Outline the seven principles that HACCP is based upon. (7 marks)
Briefly discuss HACCP's limitations. (7 marks)
3. Explain the difference between a health claim and a nutrient claim, and their allowed use in food marketing. Your answer should cover definition, regulations applying to their current use in food marketing. Give one example of a health claim and one nutrient claim for an existing, commercial product. (20 marks)
4. Explain the difference between an endotoxin and an exotoxin. (4 marks)
For each of the following food poisoning bacteria; *Salmonella enteritidis*, *Listeria monocytogenes*, *Staphylococcus aureus*, and *Clostridium botulinum*, outline the source and foods commonly contaminated by these organisms, describe the incubation period and duration of illness that may be caused. (16 marks)
5. Fully describe the cheese making process starting with pasteurized whole milk. (20 marks)

End of Examination